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## Efficacy of Cognitive Therapy Based on Mindfulness on Mental flexibility and Cognitive Fusion in the Patients with Irritable Bowel Syndrome

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### Extended Abstract

#### Aim

Irritable bowel syndrome (IBS) is a type of disorder affecting the digestive system, causing sufferers to experience long-term, reversible functional issues (Tap et al., 2017). This disease manifests as recurring periods of pain or discomfort in the abdominal area and problems with defecation (McGowan & Harer, 2021). Research indicates that IBS has a high prevalence, affecting a significant portion of the population, leading many patients to frequently consult doctors and specialists (Li et al., 2020). The prevalence of IBS is approximately 10-20% of the total population, making it one of the most common psychosomatic disorders in the field of digestive diseases. IBS patients not only suffer from abdominal and intestinal discomfort but also experience psychological effects such as anxiety, depression, and stress (Sørensen et al., 2019). These psychological issues contribute to the chronic functional problems, making patients more sensitive to adverse emotional complications (Simrén et al., 2019). Research shows that about half of the patients with IBS also suffer from anxiety and depression, leading to cognitive fusion and reduced mental flexibility. Therefore, this study was conducted to investigate the efficacy of mindfulness-based cognitive therapy on mental flexibility and cognitive fusion in patients with IBS.

#### Methodology

This was a quasi-experimental study with a pretest-posttest control group design and a two-month follow-up period. The statistical population included IBS patients who visited therapy centers and gastroenterologists in Esfahan in 2019. A total of 27 IBS patients (16 men and 11 women) were selected using an available sampling method and were randomly assigned to experimental and control groups. The experimental group received eight seventy-five-minute sessions of mindfulness-based cognitive therapy (Kabat-Zinn, 2003) over two months. The applied questionnaires included the Mental Flexibility Questionnaire (MFQ) (Dennis & Vander Wal, 2010) and the Cognitive Fusion Questionnaire (CFQ) (Gillanders et al., 2014). Data were analyzed using mixed variance analysis and the Bonferroni follow-up test, with statistical software SPSS version 23. Mixed variance analysis was used because the study involved two groups (experimental and control) measured at three stages (pre-test, post-test, and follow-up).

#### Findings

The results showed that mindfulness-based cognitive therapy had a significant effect on mental flexibility and cognitive fusion in IBS patients ( $P < 0.001$ ). This intervention led to a significant decrease in cognitive fusion scores and an increase in mental flexibility scores, which remained stable during the follow-up phase.

#### Conclusion

Based on the findings of this study, mindfulness-based cognitive therapy can be considered an effective intervention to improve mental flexibility and decrease cognitive fusion in IBS patients. Techniques such as mindful attitudes, mindful activities, addressing problematic feelings and emotions, and breathing exercises enable patients to identify anxiety-inducing and stressful conditions, leading to a more realistic understanding of their strengths and weaknesses. By leveraging their

strengths, patients can employ effective coping methods in stressful situations (Asli Azad, Manshaei, & Ghamarani, 2019). Since IBS patients often experience excessive worry, those who receive appropriate coping skills training can better manage distressing thoughts, resulting in a gradual reduction of stress, anxiety, and cognitive fusion.

**Keywords:** Cognitive Fusion, Cognitive Therapy Based on Mindfulness, Irritable Bowel Syndrome, Mental Flexibility.

### **Ethical Considerations**

In this study, patients provided informed consent to participate in the intervention program. All stages of the intervention were clearly communicated to the participants. Control group patients were assured that they could receive mindfulness-based cognitive therapy for free after the research process. Participants in both experimental and control groups were assured that their information would remain confidential and there was no need to disclose their identities. After the study, control group patients were invited to receive the intervention. No financial support was received from government or private organizations for this research.

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### **Conflict of Interest**

The author reports no conflicts of interest in this research.

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